Pest Alert

United States
Department of Agriculture

Forest Service

**Northeastern Area**
NA-PR-01-01

# Locust Leafminer, *Odonatata dorsalis (Thunb.)*

The locust leafminer is primarily a pest of black locust. Adults skeletonize and eat holes in the leaves; whereas, larvae mine the tissue between the upper and lower-leaf surface (mining damage is the most destructive). Under outbreak conditions, whole hillsides turn gray or brown, often suggesting fall color change. Outbreaks of the locust leafminer are generally more spectacular than destructive. In combination with other stress factors, outbreaks contribute to growth loss and occasional tree mortality.

**Hosts:** The major hosts are black locust and honeylocust. Other tree species (apple, beech, birch, cherry, elm, oak, and hawthorn) are occasionally attacked.

**Photos 1, 2, and 3 – Typical damage caused by locust leafminer.**

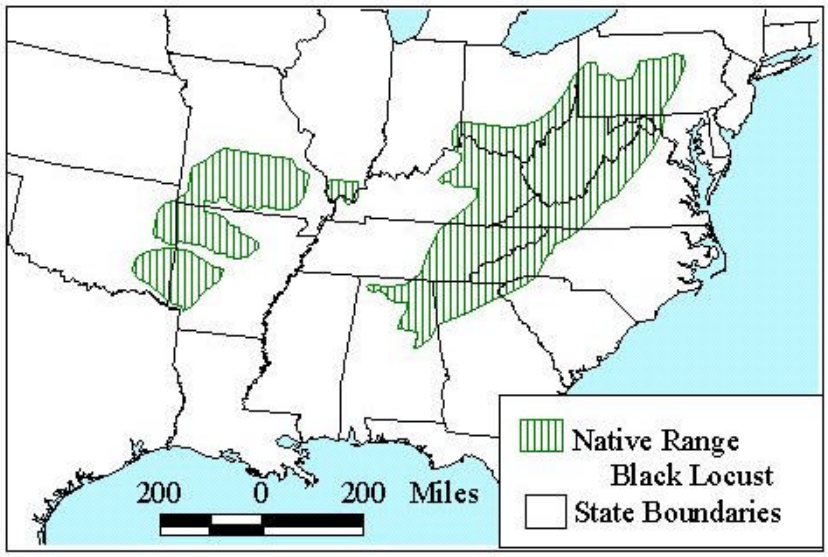
**Description:** The adult is a small, elongated, flattish beetle, about ¼ inch (5 to 6mm) in length. The head is black and the wing covers are orange with a broad black or brown stripe down the center length of the wing covers. The full-grown larvae are yellowish, flat, and slightly larger than adults.

**Life History:** Adults overwinter in bark crevices or in leaf litter and emerge about the time leaves begin to unfold in the spring. Eggs are deposited on the underside of locust leaflets. They overlap like shingles in groups of three to five and are cemented together by excrement. Upon hatching, the larvae feed collectively in common blister-like mines. Shortly thereafter, they disperse and excavate their own individual mines. Larvae pupate within the translucent mines in July. There are two generations per year.

**Photo 4 - Adult leafminer**

**Control:** Control of the locust leafminer is generally not necessary. When aesthetics are involved (such as in a residential or recreation area), control might be justifiable. If control is desired, the best time to treat is in late May or early June when the adults are active and the larval mines are less than ¼ inch in length. An insecticide with some systemic activity will give the best control. Follow the label instructions for application method, timing, and dose rate.

# Facts about – Black Locust




**General Distribution:** The original natural range of black locust is in two sections: 1) the central Appalachian Mountains from central Pennsylvania and southern Ohio south to northeastern Alabama, northern Georgia, and northwestern South Carolina, and 2) the Ozark Plateau of southern Missouri, northern Arkansas, northeastern Oklahoma, and the Oachita Mountains of central Arkansas and southeastern Oklahoma. Outlying populations thought to be part of the original natural range occur in southern Indiana, Illinois, Kentucky, Alabama, and Georgia. Black locust has been successfully planted in almost every state. Naturalized populations occur throughout the United States, southern Canada, Europe, and Asia.

**Description:** Black locust has a shallow, aggressive root system. The bark of black locust is deeply furrowed and is dark reddish-brown to black in color. It has an alternate branching pattern, which creates a zigzag effect. At each leaf node a pair of sharp thorns grow; they are ½ to ¾ inches long and very stout.

**Leaves:** The pinnately compound leaves are 8 to 14 inches long, with 7 to 19 short-stalked leaflets. These dull green leaflets are ovoid or oval, 1 to 2 inches long, thin, rough above, and pale below.

**Flower:** The male and female, sweetly fragrant flowers are creamy white and have five petals (bean-like), arranged in a pyramidal spike. They usually bloom in May or June. Heavy seed production can be expected annually or biannually. The legume-type seed is produced in a flat, brown to black pod, which is 2 to 4 inches long. There are an average of 250 to 500 seeds per pound. Although black locust is a good seed producer, its primary means of spreading are rudimentary and adventitious root suckers.

**Value:** Black locust is not a commercial timber species but is useful for many other purposes. Because it is a nitrogen fixer and has rapid juvenile growth, it is widely planted as an ornamental, for shelterbelts, and for land reclamation. It is suitable for fence posts, fuel wood, and pulp. It also provides cover for wildlife, browse for deer, and cavities for birds.

**Photo Credits: WV Department of Agriculture and USDA Forest Service, Forest Health Protection**

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